

## **DETAILED ACTION**

### ***Allowable Subject Matter***

1. Claims 115-129 and 131-142 are allowed.
2. The following is an examiner's statement of reasons for allowance: Please see the Applicant Arguments/Remarks Made in an Amendment filed 1/30/12 and below.

Claim 115 recites an apparatus for testing a charging system of an automotive vehicle, comprising: electrical connections configured to couple to a battery of the vehicle; a user input configured to receive a battery rating from an operator; a display configured to display information to the operator; and a microprocessor configured to: prompt the operator to input rating information for the battery using the input; receive the rating information for the battery from the operator from the input; perform a battery test on the battery through the electrical connections to the battery; measure a dynamic parameter of the battery through the electrical connections to the battery; determine a condition of the battery by comparing the measured dynamic parameter to the received rating, the battery test result indicative of a battery condition, the battery condition including a fully charged battery and a battery which is not fully charged; detect revving of the engine by observing an increased frequency of an AC ripple of a voltage measured through the electrical connectors to the battery; detect a diode or stator problem if the AC ripple exceeds a threshold; instruct the operator to start an engine of the vehicle through the display; detect starting of the engine of the automotive vehicle by the operator by a drop in a voltage measured through the electrical connections to the battery; measure a starting voltage through the electrical connections to the battery during starting of the engine of the automotive vehicle; and provide a charge battery output to the operator through the display if the measured

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starting voltage is low relative to a threshold and the battery test result is indicative of a battery which is not fully charged, provide a cranking voltage low output to the operator through the display if the measured starting voltage is low relative to a threshold and the battery test result is indicative of a fully charged battery; provide a cranking voltage normal output to the operator through the display if the starting voltage is normal relative to a threshold and the battery test result is indicative of a fully charged battery.

The prior art of record does not disclose the above limitations, nor would it be obvious to modify the art in such a manner.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to AARON PIGGUSH whose telephone number is (571)272-5978. The examiner can normally be reached on Monday-Friday 9:30am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Assouad can be reached on 571-272-2210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. P./

Examiner, Art Unit 2858

/Edward Tso/

Primary Examiner, Art Unit 2858